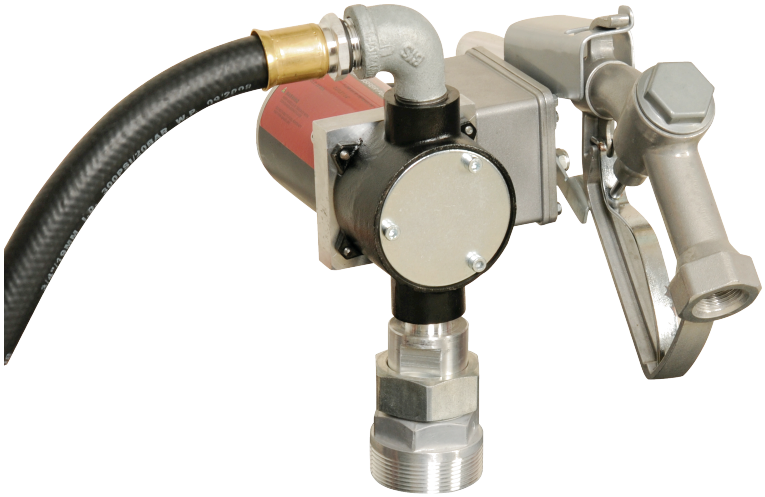
DC Fuel Transfer Pump Kit
User's Manual



⚠ Read carefully and understand **RULES FOR SAFE OPERATION** and instructions before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item #680480

Thank you very much for choosing a Northern Industrial product! For future reference, please complete the owner's record below:

Model: _____ Purchase Date: _____

Save the receipt, warranty and these instructions. It is important that you read the entire manual to become familiar with this product before you begin using it.

This machine is designed for certain applications only. The distributor strongly recommends this machine not be modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the machine until you have first contacted the distributor to determine if it can or should be performed on the product.

For technical questions and replacement parts, please call **1-800-222-5381.**

SAFETY INSTRUCTIONS

To ensure safe and efficient operation, it is essential to read and follow each of these warnings and precautions.

1. DO NOT smoke near pump or use pump near an open flame. Fire could result.
2. Disconnect power to pump before servicing pump.
3. Turn off the switch before connecting power.
4. Take motors needing service to an authorized repair shop or return to factory to maintain.
5. A filter should be used on pump outlet to ensure that no foreign material is transferred to fuel tank.
6. Tank or barrel should be anchored to prevent tipping in both the full and empty conditions.

⚠ WARNING:

1. Electrical wiring should be done by a licensed electrician in compliance with local codes. Rigid conduit should be used and proper ground must be provided to avoid the possibility of electrical shock. Failure to comply with this warning could result in serious injury and/or loss of property.
2. This product should not be used for fluid transfer into aircraft. This product is not suited for use with fluids for human consumption or fluids containing water.
3. Extreme operating conditions with working cycles longer than 30 minutes can cause the motor temperature to rise, thus damaging the motor itself. Each 30-minute working cycle should always be followed by a 30-minute power-off cooling phase.

GENERAL DESCRIPTION

These products are positive displacement, rotary vane pumps. Depending on installation and viscosity, these pumps can deliver up to 8 GPM or 30LPM. Their rugged design makes for a long life of dependability.

TECHNICAL INFORMATION

- Inlet: 2in. male on tank adapter, 3/4in. female on pump
- Outlet: 3/4in. female for 8 GPM/30LPM
- Built-in bypass valve.
- Furnished with:
  - 13-ft./4m delivery hose
  - 1 pc. steel suction pipe
  - 1 pc. Aluminum manual nozzle.
  - 1 pc. 2in. quick-change coupling
- Electrical Specifications

PUMP ITEM	ELECTRICAL POWER		CURRENT	Flow Rate (L/min /GPM)
	Current	Voltage	Maximum (Amp)	
648480	DC	12	25	30/8

OPERATING CONDITIONS

Temperature: Minimum -4°F (-20°C) / Maximum 140°F (60°C)
Relative Humidity: Maximum 90%

FLUID COMPATIBILITY

These products are compatible with the following fluids:
Diesel, Kerosene, Mineral Spirits

⚠ **CAUTION:** DO NOT use with other fluids without consulting manufacturer.

⚠ **CAUTION: DO NOT use with gasoline**.

INSTALLATION INSTRUCTIONS

1. Tightly screw suction pipe into inlet coupling of pumping unit. Extend suction pipe into truck tank or barrel to within 3in. of tank bottom.
2. Screw inlet coupling of pump into 2in. tank or barrel opening. Inlet coupling must be completely and securely threaded into an undamaged tank or barrel bung.
3. During installation and maintenance, make sure that the electric supply lines are not live.
4. Always turn off the switch before supplying electrical power.
5. Check the correct rotation direction of the DC pump. If it is inverted, check the polarity of the connection cable.
   a) RED cable: positive pole (+)
   b) BLACK cable: negative pole (-)

6. Systems should be designed to require a minimum amount of suction lift. Maximum “equivalent feet of lift” is 8 feet for diesel fuel.
7. Tank or barrel must be properly vented. A water separator should be used for pumping diesel fuel.
8. Power to the unit should be supplied from a dedicated 30 Amp circuit breaker. No other equipment should be powered from this breaker. If two pumps are supplied from one breaker, that breaker must be capable of handing the load of both motors.

PROBLEMS AND SOLUTIONS

Problem	Possible Cause	Corrective Action
The motor is not turning	Lack of electric power	Check the electrical connections and the safety systems
	Rotor jams	Check for possible damage or obstruction of the rotating components.
	Motor problems	Contact with the service department
Low or no flow rate	Low level in the suction tank	Refill the tank
	Foot valve blocked	Clean and/or replace the valve
	Filter clogged	Clean the filter
	Excessive suction pressure	Lower the pump with respect to the level
	High loss of head in the circuit (working with the by-pass open)	Use shorter tubing or of greater diameter
	By-pass valve blocked	Dismantle the valve, clean and/or replace it
	Air entering the pump or the suction tubing	Check the seals of the connections
	A narrowing in the suction Tubing	Use tubing suitable for working under suction pressure
	Low rotation speed	Check the voltage at the pump. Adjust the voltage and/or use cables of greater cross-section
	The suction tubing is resting on the bottom of the tank	Raise the tubing
Increased pump noise	Cavitations occurring	Reduce suction pressure
	Irregular functioning of the by-pass	Dispense until the air is purged from the circuit
	Air present in the diesel fuel	Verify the suction connections
Leakage from the pump body	Seal damaged	Check and replace the mechanical seal

Daily Use

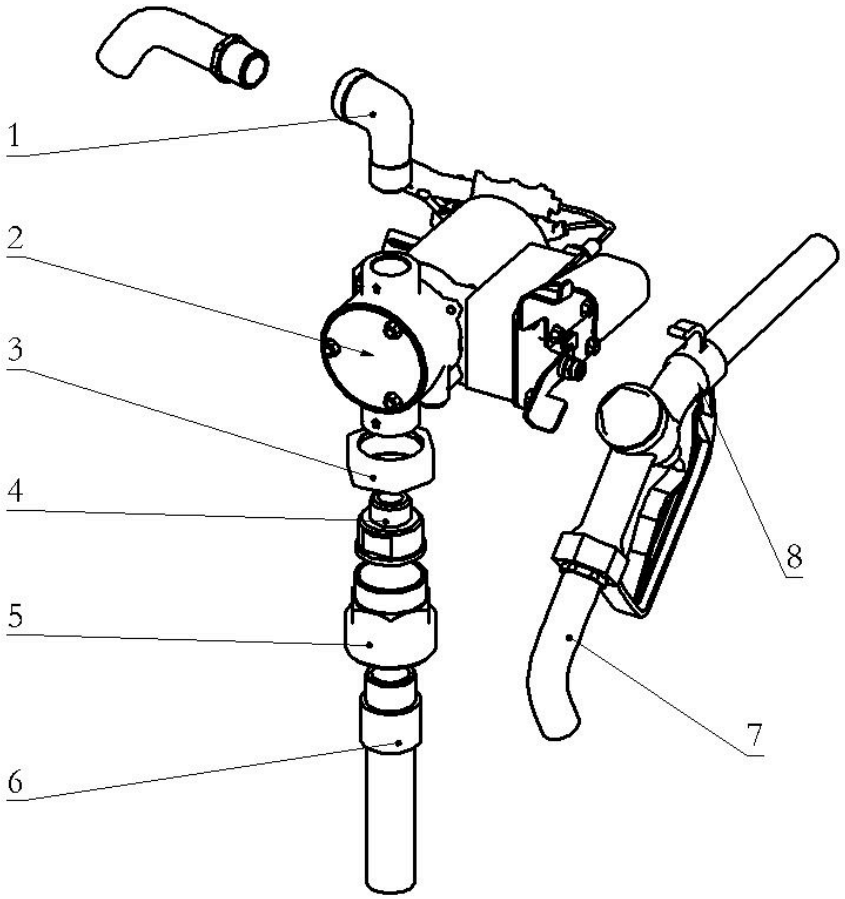
- If using flexible tubing, attach the ends of the tubing to the tanks. In the absence of an appropriate slot, solidly grasp the delivery tube before beginning dispensing.
- Before starting the pump make sure that the delivery valve is closed (dispensing nozzle or line valve).
- Turn the ON/OFF switch to ON. The by-pass valve allows functioning with the delivery closed for only brief periods.
- Open the delivery valve, solidly grasping the end of the tubing.
- Close the delivery valve to stop dispensing.
- When dispensing is finished, turn off the pump.

MAINTENANCE

Under normal working conditions, the noise emission from all models does not exceed the value of 80db at a distance of 1 meter from the electric pump.

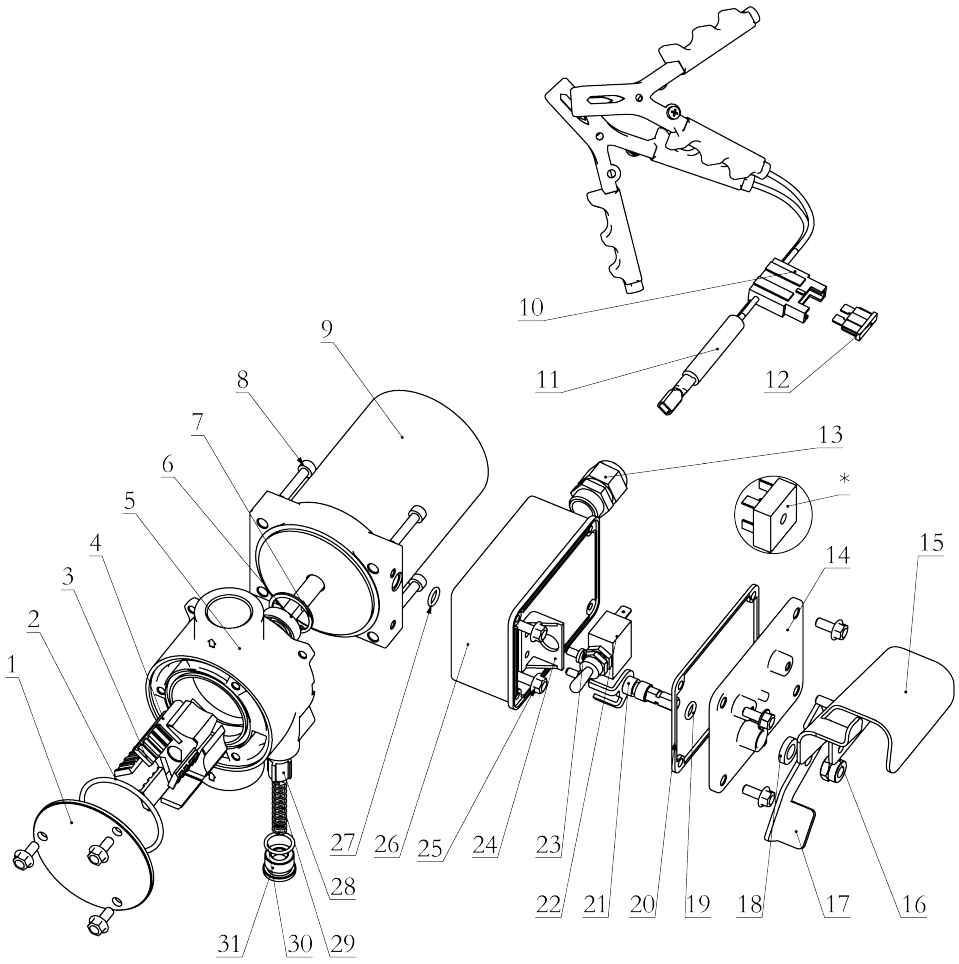
DIGRAM AND PARTS LIST

A. FOR KIT



Part No.	Component Description	Quantity
1	90° Elbow	1
2	Fuel Pump	1
3	Nut	1
4	Adapter	1
5	Tank Adapter	1
6	Extensible Pipe	1
7	13ft./4m Delivery Hose	1
8	Manual Nozzle	1

B. FOR SINGLE PUMP



No.	Description	Qty.	No.	Description	Qty.
1	Front cover	1	17	Switch connector	1
2	O-ring	1	18	Washer	1
3	Blade	1	19	O-ring	1
4	Rotor	5	20	Seal	1
5	Pump chamber	1	21	Fork for turning switch	1
6	Seals	1	22	Switch	1
7	Spring collar	1	23	Bolt	1
8	Hex bolt	1	24	Switch bracket	2
9	Electric motor	4	25	Hexagon flange bolts	1
10	Fuse carrier	1	26	Junction box	11
11	DC Power cable	1	27	O-ring	1
12	Fuse	1	28	Valve	1
13	Cable clip	1	29	Spring	1
14	Junction box cover	1	30	O-ring	1
15	Nozzle holder	1	31	Sealed screw	1
16	Nylon self-locking screw	1			

⚠ WARNING

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well-ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

WARRANTY

1-year limited warranty

Distributed by
Northern Tool + Equipment Co.,
Burnsville, MN 55337-0499
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